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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,037	12/31/2003	Toshihiro Fukuda	10122.005002	1938

7590

08/11/2005

Osha & May L.L.P.
Suite 2800
1221 McKinney
Houston, TX 77010

EXAMINER

LUBY, MATTHEW D

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,037

Applicant(s)

FUKUDA ET AL.

Examiner

Matt Luby

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-12 and 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12 and 15-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 5/25/05 fails (in part) to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered with regards to the references that have been lined through.

Claim Objections

Claim 21 is objected to because of the following informalities: the word "epart" in line 13 should be changed to "apart". Appropriate correction is required.

Claim 15 is objected to because of the following informalities: the word "y" in line 2 should be changed to "by". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 19 recites that the presser member has a party with which a tool for rotating the pressing member is engaged. This recitation is not supported by the specification. The specification merely discloses that an unidentified tool is used to rotate the presser, 31, onto the ball screw nut, 29, until a proper pre-load is given (original disclosure, paragraph bridging pages 15-16.)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites that the presser member has a party with which a tool for rotating the pressing member is engaged. This recitation is vague and indefinite because it is unclear how the tool for rotating the presser member onto the ball screw nut, 29, in the first place to put together the electrically driven power steering apparatus claimed, is still engaged with the presser member.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11 and 16-20 (19 as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Wallace

Cheng teaches substantially all that is closed including a ball screw nut 72, a bearing 76 and a presser member 80 abutting the bearing and having a female thread for engaging with a male thread of the ball screw nut (the presser member is understood to have been rotatably screwed onto the ball screw nut by some type of tool for putting together the parts of the steering system and wherein the presser member is attached to the ball screw nut in the normal way threaded components are attached to each other, as recited in claim 20, i.e., by not causing a deformation). Cheng does not specifically disclose a connecting device capable of limiting a relative rotation between the presser member and ball screw nut despite loss of bonding force between the threads by means of a shearing force of resinous material that could serve as a filler coated on the threads of the presser member. Wallace discloses the known use of a resin to lock a threaded coupling which serves as a filler coated on the threads of the presser member. It would have been obvious to modify Cheng, by using a resin lock, as taught by Wallace to prevent loosening of the presser member since Cheng discloses the use of a "lock nut" and since Wallace teaches that the use resin is

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desirable to oppose separation of threaded members, and because the prevention of loosening of the presser member is clearly desirable in a critical device such as a steering system.

Claims 10, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Wakabayashi.

Cheng teaches substantially all that is closed including a ball screw nut 72, a bearing 76 and a presser member 80 having a thread for engaging with a thread of the ball screw nut. Cheng does not specifically disclose a connecting device capable of limiting a relative rotation between the presser member and ball screw nut despite loss of bonding force between the threads by a presser member deformed towards the ball screw. However, Wakabayashi discloses deforming a nut to provide for locking of a threaded coupling. It would have been obvious to modify Cheng, by using a deformed presser member, as taught by Wakabayashi, to prevent loosening of the presser member since Cheng disclose the use of a "lock nut" and since Wakabayashi teaches that the use of deformation is desirable to oppose separation of threaded members, and because the prevention of loosening of the presser member is clearly desirable in a critical device such as a steering system. The deformation of the presser (as part of a system to oppose separation of threaded members) would inherently limit the relative rotation therebetween to the same degree as claimed and disclosed.

Claims 21, 22 and 24-27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Wakabayashi.

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Cheng teaches substantially all that is closed including a ball screw nut 72, a bearing 76 and a presser member 80 abutting the bearing and having a female thread for engaging with a male thread of the ball screw nut (the presser member is understood to have been rotatably screwed onto the ball screw nut by some type of tool for putting together the parts of the steering system and wherein the presser member is attached to the ball screw nut in the normal way threaded components are attached to each other, as recited in claim 20, i.e., by not causing a deformation). Cheng does not specifically disclose that the presser member has a connecting device capable of limiting a relative rotation between the presser member and ball screw nut by deforming on a part of a thin cylindrical portion towards the ball screw nut. However, Wakabayashi discloses deforming a nut to provide for locking of a threaded coupling. It would have been obvious to modify Cheng, by using a deformed presser member (deformed at a thin cylindrical portion - such as seen in Figure 4), as taught by Wakabayashi, to prevent loosening of the presser member since Cheng disclose the use of a "lock nut" and since Wakabayashi teaches that the use of deformation is desirable to oppose separation of threaded members, and because the prevention of loosening of the presser member is clearly desirable in a critical device such as a steering system. The deformation of the presser (as part of a system to oppose separation of threaded members) would inherently limit the relative rotation therebetween to the same degree as claimed and disclosed.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Wakabayashi, as applied to claim 21 above, and further in view of Wallace.

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The modified Cheng vehicle discloses all of the claimed limitations except use of a filler coated on a thread of the presser member. Wallace discloses the known use of a resin to lock a threaded coupling. It would have been obvious to modify Cheng, by using a resin lock, as taught by Wallace to prevent loosening of the presser member since Cheng discloses the use of a "lock nut" and since Wallace teaches that the use resin is desirable to oppose separation of threaded members, and because the prevention of loosening of the presser member is clearly desirable in a critical device such as a steering system.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

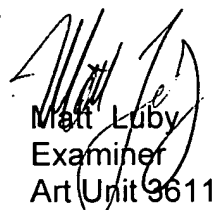
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

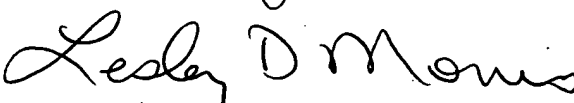
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt Luby whose telephone number is (571) 272-6648. The examiner can normally be reached on Monday-Friday, 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6612. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Matt Luby
Examiner
Art Unit 3611

ml
August 3, 2005


LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600